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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/007,003

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Sujal M. Patel

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EXAMINER

CHEN, TE Y

ART UNIT

PAPER NUMBER

2161

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,003

Applicant(s)

PATEL ET AL.

Examiner

Susan Y. Chen

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/15/2005 has been entered.

Election/Restrictions

This office action is responsive to the Election of Restriction filed on March 7, 2005. Applicant has elected group I (claims 1-12 and 43) without traverse for continue prosecution. Claim 9 has been amended, and claims 13-42 and 44-61 have been canceled.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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As to claims 1, 3-10, and 43, the claim language extensively use the term "wherein" but the instant specification fails to provide actual steps to perform or limit these claims to a particular structure, thus, this term renders the claimed scope to be indistinct. See *In re Markman v. Westview Instruments*, 52 F.3d 967, 980, 34 USPQ2d 1321, 1330 (Fed. Cir.) (en banc), off 'd, U.S., 116 Ct. 1384 (1996).

As to claims 2 and 11-12, these claims have the same defects as their base claim, hence are rejected for the same reason.

Because of the ambiguous nature of the claims, the following art rejection is to the best as the examiner is able to ascertain.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 7-10 and 43, are rejected under 35 U.S.C. 102(b) as being anticipated by Evans et al. (U.S. Publication No. 2003/0014391).

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As to claim 1, Evans et al. (hereinafter referred as Evans) discloses a distributed file system [e.g., Abstract, Fig. 1 and associated texts], comprising:

- a first storage module including a processing module [e.g., the forward computer P cluster, Fig. 1];

- a second storage module including a processing module [e.g., the application layer packet forwarding computer C1, Fig. 1];

- a third storage module including a processing module [e.g., the application layer packet forwarding computer C2, Fig. 1];

- a forth storage module including a processing module [e.g., the application layer packet forwarding computer C3, Fig. 1];

- a file stored on the distributed file storage system [e.g., P.1, Sections: 0001-0005, P. 3, Sections: 0035-0036];

- a first file portion of the file comprising a first set of file data stored in the first storage module [e.g., Fig. 2b and associated texts];

- a second file portion of the file comprising a second set of file data stored in the second storage module, wherein the second set of file data is different from the first set of file data [e.g., Fig. 2a and associated texts];

- a first metadata related to the location of the file stored on the first storage module, the second storage module, the third storage module, and the forth storage module [e.g., P. 4, Section: 0055];

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a second metadata related to the location of the file stored on at least one of the first storage module, the second storage module, the third storage module, and the forth storage module [e.g., P.4, Section: 0052-0054];

a switch module in communication with the set of storage modules to receive a read request for the file stored on the distributed file system and to sent the read request to any one of the set of storage modules [e.g., P. 1, Sections: 0004 – 0012];

each of the set of storage modules use the first metadata to respond to and implement the read request on behalf of the distributed file storage system [e.g., Fig. 1 and associated texts].

As to claim 2, except the features recited in claim 1, Evans further discloses the system comprising error correction data related to the file, and stored in the distributed file storage system [e.g., P. 7, Section: 0077].

As to claim 7, except the features recited in claim 1, Evans further discloses that each of the storage modules are configured to receive a request to and initiate the request to move the first file portion in real-time from the first storage module to the third storage module and to send a request to update the second metadata to indicate the location of the moved first file portion [e.g., Evans: P.1, Section 0016 – P.2, Section 0017].

As to claim 8, except the features recited in claim 1, Evans further discloses that each of the storage modules are configured to receive a request to and initiate the request to replicate the first file portion in real-time from the first storage module to the third storage module and to send a request to update the second metadata to indicate the location of the replicated first file portion [e.g., Evans: P.1, Sections: 0022-0023].

As to claims 9-10, except the features recited in claim 1, Evans further discloses that the second metadata includes metadata related to the locations that the file data is stored and the parent directory of the file [e.g., Evans: P. 2, Section: 0024].

As to claim 43, except the features recited in claim 1, Evans further discloses the file has been stored on a number of storage modules, wherein the number is equal to or greater than two is an intended use of distributing file processing [e.g., Evans: Fig. 1 and associated texts].

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6, are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans (U.S. Publication No. 2003/0014391) as applied to claims 1-2 above and in view of Beardsley et al. (U.S. Patent No. 6,502,174).

As to claim 3, Evans does not specifically disclose the error correction data include parity information.

However, Beardsley et al. (hereinafter referred as Beardsley) discloses the error correction data include parity information [e.g., col. 4, lines 50-67].

Evans and Beardsley are both in the same endeavor to optimize the data storage processing via metadata mapping technique [e.g., Evans: 25, Fig. 3, Beardsley: Fig. 2], therefore, with both Evans and Beardsley teachings in front of him/her, it would have

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been obvious for an ordinary skilled person in the art at the time the invention was made to be motivated to modify Evans' system with the metadata structure taught by Beardsley, because by doing so, the combined system would be able to apply the parity information in the error message to check data message accuracy, therefore, result in a reliable data transmission system.

As to claim 4, the combined system of Evans and Beardsley further discloses the parity information includes parity data block and location information indicating where the parity data blocks are stored, wherein such location information is used later to retrieve the parity blocks and the second metadata further indicates the location information [e.g., Beardsley: Fig(s). 2-3 and associated texts].

As to claim 5, except the features as recited in claim 2, the combined system of Evans and Beardsley further discloses that the error correction data includes redundancy data related to the file, and the second metadata further indicates the location of the redundancy data [e.g., Beardsley: Fig(s) 2, 7a-c and associated texts].

As to claim 6, except the features as recited in claim 5, Evans further discloses that the first metadata related to the location of the file includes metadata related to the root directory [e.g., Evans: P. 2, Section: 0024].

Claim Rejections - 35 USC § 103 (Continue)

Claims 11-12, are rejected under 35 U.S.C. 103(a) as being unpatentable over the system of Evan (U.S. Publication No. 2003/0014391) as applied to claim 1 above, and in view of Mason, Jr. (U.S. Patent No. 5,884, 098).

As to claims 11-12, the system of Evan does not expressively disclose the claimed read/write features cited by applicant. However, Mason Jr. (hereinafter referred as Mason) teaches that the claimed features are the general options of the popular storage technology RAID Level 5 processing [e.g. see col. 8, lines 29-32].

Evan and Mason are in the same endeavor to process input/out storage data via network. As such, it would have been obvious to one of ordinary skilled person in the art at the time the invention was made, to adapt the very popular RAID processing into Evans' system, because by applying the existing technique of RAID level 5 processing as taught by Mason into the system of Evans, the system would provide a handy read-modify-write operations for storage data block I/O processing.

Response to Arguments

Applicant's arguments with respect to claims 1-12 and 43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

1) Roper et al. (U.S. Patent No. 5,870,563) which discloses a system optimizes message transmission.

2) Olnowich et al. (U.S. Patent No. 5,734,826) which discloses a variable cycling redundancy code system used in a multistage network for data messages or packets transmission.

Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y. Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Susan Y Chen
Examiner
Art Unit 2161

June 5, 2006

A handwritten signature in cursive script that reads "Susan Chen".